

Patent Claims:

1 – 3 (canceled)

4. (new) A method for controlling the operation of an HCCI internal combustion engine, comprising:

operating the internal combustion engine in the HCCI operating mode or in an operating mode using externally applied (spark) ignition and during normal operation in a predefined switchover method is switched between the operating modes as a function of predefined operating parameters, wherein irrespective of the predefined switchover method, operation of the internal combustion engine in the HCCI operating mode is prevented if at least one of the following exceptional situations occurs; the vacuum in a vacuum reservoir of an associated braking system is less than a limit value due to an excessively high pressure in the intake duct of the internal combustion engine; the scavenge rate of a fuel tank venting valve of an associated fuel tank venting system of the internal combustion engine is less than a limit value; the temperature of the coolant of a cooling circuit of the internal combustion engine is less than a minimum value; the measurement of the air mass and/or the pressure in the intake duct of the internal combustion engine is defective; the ignition of the air-fuel mixture and/or the fuel injection is defective; misfires or extremely uneven running of the internal combustion engine occur; and a safety device for monitoring the control functions of the internal combustion engine detects a system error.

5. (new) The method as claimed in claim 4, wherein if the internal combustion engine is being operated in the HCCI operating mode and at least one of the events as claimed in claim 4 occurs, the internal combustion engine will be switched over to an operating mode using externally applied (spark) ignition.

6. (new) A method for controlling the operation of an HCCI internal combustion engine, comprising:

operating the internal combustion engine in the HCCI operating mode or in an operating mode using externally applied (spark) ignition and during normal operation in a predefined

switchover method is switched between said operating modes as a function of predefined operating parameters, characterized in that, irrespective of the predefined switchover method, operation of the internal combustion engine in the HCCI operating mode is enforced if at least one of the following exceptional situations occurs; the recirculation rate of an external exhaust gas recirculation system of the internal combustion engine is greater than a limit value as a result of a malfunction; and the air-fuel ratio is less than 1 in spite of the fuel injection being switched off.